

## ABSTRACT

A continuous vacuum carburizing process carburizes material such as a steel wire 7 with a carbon content equal to or less than a desired carbon content by passing it under reduced pressure continuously through a carburizing atmosphere 5 with constant pressure and constant gas composition. A continuous vacuum carburizing apparatus for carrying out this process has at least one furnace core tube 1, 11, or 12 and a feeding/taking-up mechanism 13, 14 for the steel wire 7 in a vacuum container 1. Carburizing medium gas is supplied to the furnace core tube 1 via pipes 2, 4 to form the carburizing atmosphere 5. A heater 10 heats the furnace core tube 1, thereby activating carbon of the carburizing medium gas. In this way, material having a small thickness of, for example, 0.02 mm to 3 mm is carburized with less variation in the amount of carburization and no surface oxidation or sooting.